

# **SUPERMARKET SALES ANALYSIS REPORT**

## **Introduction**

This report presents the findings from the analysis and visualization of a supermarket sales dataset. The primary objective of the project was to evaluate the sales performance of three major branches of the supermarket over a three-month period.

By analysing various aspects of the sales data, the report aims to identify trends, provide insights into the supermarket's performance, and offer actionable recommendations for informed decision-making.

## **Data Source**

The dataset utilized for this analysis was sourced from Kaggle. The data includes sales records from the supermarket's three branches, capturing various sales metrics, customer demographics, and payment methods.

## **Methodology**

The analysis process involved several key steps, including data loading, initial preparation, data cleaning, exploratory data analysis (EDA), and visualization. Microsoft Excel was the primary tool used throughout this project to perform various functions such as data import, cleaning, analysis, and visualization.

## **Data Loading and Initial Preparation**

Initially, the dataset was loaded into Microsoft Excel to facilitate data access for subsequent analysis. To enhance readability and navigation, freeze panes were applied to the top row to keep column headers visible during scrolling.

## Data Cleaning and Formatting

Data cleaning was essential to ensure the accuracy and reliability of the analysis. This step included:

- ✓ Checking for and correcting spelling errors in categorical data (e.g., product line names, payment methods, city names).
- ✓ Identifying and removing empty rows and extra spaces.
- ✓ Addressing missing values to maintain data integrity.
- ✓ Removing duplicate records to ensure each Invoice ID was unique.
- ✓ Formatting date and currency data for consistency and readability.

## Exploratory Data Analysis (EDA)

The EDA aimed to answer several key questions:

1. What is the highest performing branch?
2. Which payment method is preferred by customers?
3. What products are top-sellers?
4. What is the overall sales trend?

## Insights

The analysis provided several significant insights:

- ✓ Top-Performing Branch: Branch C in Naypyitaw emerged as the highest performing branch based on sales revenue.
- ✓ Payment Method Preference: E-wallets were identified as the most preferred payment method among customers.
- ✓ Top-Selling Products: The categories of electronic accessories and food & beverages were identified as the top-selling products, with food & beverages receiving the highest customer ratings.

- ✓ Sales Trends: January recorded the highest sales revenue, followed closely by March, while February showed the lowest sales revenue.

## Recommendations

Based on the analysis and insights gained, the following recommendations are proposed:

1. **Inventory Expansion:** The supermarket should consider expanding its inventory in electronic accessories and food & beverages to capitalize on their popularity.
2. **Quality Maintenance:** Maintaining high standards in food & beverages is crucial for sustaining customer satisfaction and loyalty.
3. **Targeted Marketing Strategies:** To address the low sales revenue observed in February, the supermarket could implement targeted marketing strategies during this period, such as seasonal promotions, limited-time offers, and events to encourage customer engagement.

## Visualization and Dashboard

Data visualizations were created to provide a clear understanding of sales performance. Key visualizations included:

1. Clustered column charts for total sales by branch and customer demographics.
2. A pie chart illustrating sales by payment method.
3. Line charts depicting sales trends over time.
4. Pivot tables for detailed analysis of sales metrics.

## Conclusion

The supermarket sales analysis provided valuable insights into the performance of the supermarket's branches, payment preferences, and product sales. The recommendations derived from the analysis can guide the supermarket in making informed decisions to enhance operational efficiency and customer satisfaction.

Implementing the suggested strategies will likely contribute to improved sales performance and growth in the competitive retail environment.

Thank you for your attention to this report.